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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/487,330	01/19/2000	Taisuke Nakamura	Q056606	3044

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EXAMINER

TRAN, HENRY N

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 07/31/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

24

Office Action Summary

Application No.

09/487,330

Applicant(s)

NAKAMURA, TAISUKE

Examiner

HENRY N. TRAN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 16-34 is/are rejected.
- 7) ☒ Claim(s) 6-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4,5-7. 6) ☐ Other: _____

DETAILED ACTION

This Application has been examined. The original claims 1-34 are pending. The examination results are as following.

Information Disclosure Statement

1. The examiner has considered the references listed in the information disclosure statement (IDS) filed 1/19/00, 6/22/00, 6/07/01, 11/20/01, and 07/02/02 (Paper Numbers 2, 4, 5, 6, and 7) (see attached form PTO-1449).

Note: The references listed in the IDS filed 07/02/02 (Paper No. 7) are duplicated with those listed in the IDS filed 11/20/01 (Paper No. 6).

Drawings

2. The examiner objects to the drawings filed 01/19/00 because of the problems found by the Draftsperson (see attached form PTO 948). The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

The disclosure includes terminology: "a D/D converter 16" (see FIG. 5; and pages 20 and 21), which is so different from that which is generally accepted in the art to which this invention pertains.

Applicant is requested to provide a clarification of this matter or correlation with art-accepted terminology. For example: a DC/DC converter 16, or a D/A converter 16, or an

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A/D converter 16. Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

4. The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood: “images of a forth color are adapted to be displayed in cooperation with the first light emitter and the second light emitter” (see lines 22-25 of page 3), and “images with a forth color are adapted to be displayed in cooperation with the first light emitter and the second light emitter”. The examiner has found no support (a description or a definition) what the forth color is.

Applicant is required to submit an amendment, which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 16-28 and 34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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7. Regarding claim 16, which includes the claimed limitation: “images of a forth color are adapted to be displayed in cooperation with the first light emitter and the second light emitter” (see lines 11-14 of claim 16) was not described in the specification. The examiner is unable to determine the metes and bounds of the above underlined claimed limitation with a fair degree of certainty because it is unclear that what a forth color is, how the images of a forth color are adapted to be displayed in cooperation with the first light emitter and the second light emitter.

8. Regarding claims 17-28, which are dependent upon the base claim 16, and are therefore rejected on the same reasons set forth in claim 16 discussed above.

9. Regarding claim 34, which is a method claim, and includes the claimed limitation: “whereby images with a forth color are adapted to be displayed in cooperation with the first light emitter and the second light emitter” (see lines 8-11 of claim 34) was not described in the specification. The examiner is unable to determine the metes and bounds of the above underlined claimed limitation with a fair degree of certainty because it is unclear that what a forth color is, how the images with a forth color are adapted to be displayed in cooperation with the first light emitter and the second light emitter.

The examiner has read the above underlined claimed limitations in light of the Specification for determining the definiteness of the claimed limitations. However, the examiner is still unclear how images of a forth color (claim 16), and images with a forth color (claim 34) are displayed.

The examiner was unable to apply prior art in the rejection of claims 16-28 and 34 until the rejection of claim s 16-28 and 34 is overcome.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-5 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan, Jr. et al (U.S. Patent 6,028,597 hereinafter referred to as "Ryan") in view of Yoshihara et al (U.S. Patent 6,115,016 hereinafter referred to as Yoshihara).

12. Regarding claims 1-5, Ryan teaches a display device 28 (a highway signage 28), comprising: a plurality of light emitters 28a, 28b, and 28c (LEDs 28a, 28b, and 28c); a power source 24 and 26 (a solar array 24 and a storage battery 26) or a power source 32 for supplying power to said light emitters; a resistor 22m (a power limiting device 22m); and a controller 22 for controlling a current (Ryan says "the desired average current") flowing through said LEDs such that the sum of current flowing through said LEDs is maintained at a predetermined value, e.g. 30 mA (see FIGS. 2 and 3; col. 4, lines 29-32, lines 58-63; and col. 5, line 55 to col. 7, line 52). However, Ryan does not teach expressly the use of a plurality of light emitters, each emitting a light of different in color from other of said light emitters, which are light emission diodes which emit red, green, and blue color light. Yoshihara teach the use of a plurality of color light emission diodes, which emit red, green, and blue color light (see FIG. 7; and col. 3, lines 48-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize color LEDs in the system as taught by Ryan because this would provide an

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improved display device capable of maintaining constant brightness of visible light emitters while conserving power (see Ryan, col. 2, lines 59-62).

13. Regarding claims 29-33, which are method claims corresponding to the apparatus claims 1-5, and are rejected on the same basis set forth in claims 1-5.

Allowable Subject Matter

14. Claims 6-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a method and an apparatus for driving a display device.

Each dependent claims 6, 7, 8, and 13 identifies the uniquely distinct features "resistance values ...are set to be substantially equal to each other" (claim 6), "the current ... do not

simultaneously flow through the plurality of said light emitters" (claim 7), "a plurality of control signal generators for ..." (claim 8), and "a converter for adjusting..." (claim 13). The closest

prior art, Ryan, Jr. et al (U.S. Patent 6,028,597) and Yoshihara et al (U.S. Patent 6,115,016) disclose conventional display device, either singularly or in combination, fails to anticipate or render the above underlined limitations obvious.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see form PTO-892).

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is

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(703) 308-8410. The examiner can normally be reached on Mon - Fri from 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE, can be reached at (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

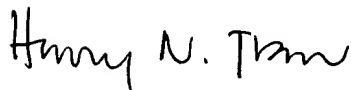
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office Whose telephone number is (703) 306-0377.



HENRY N. TRAN
Examiner
Art Unit 2674

hnt
July 24, 2002